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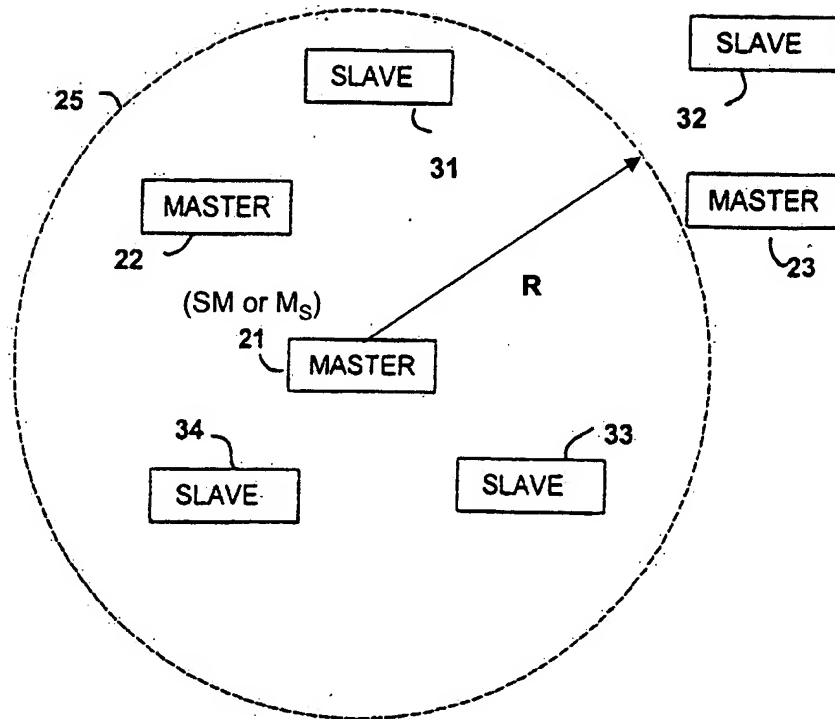
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FIG. 1



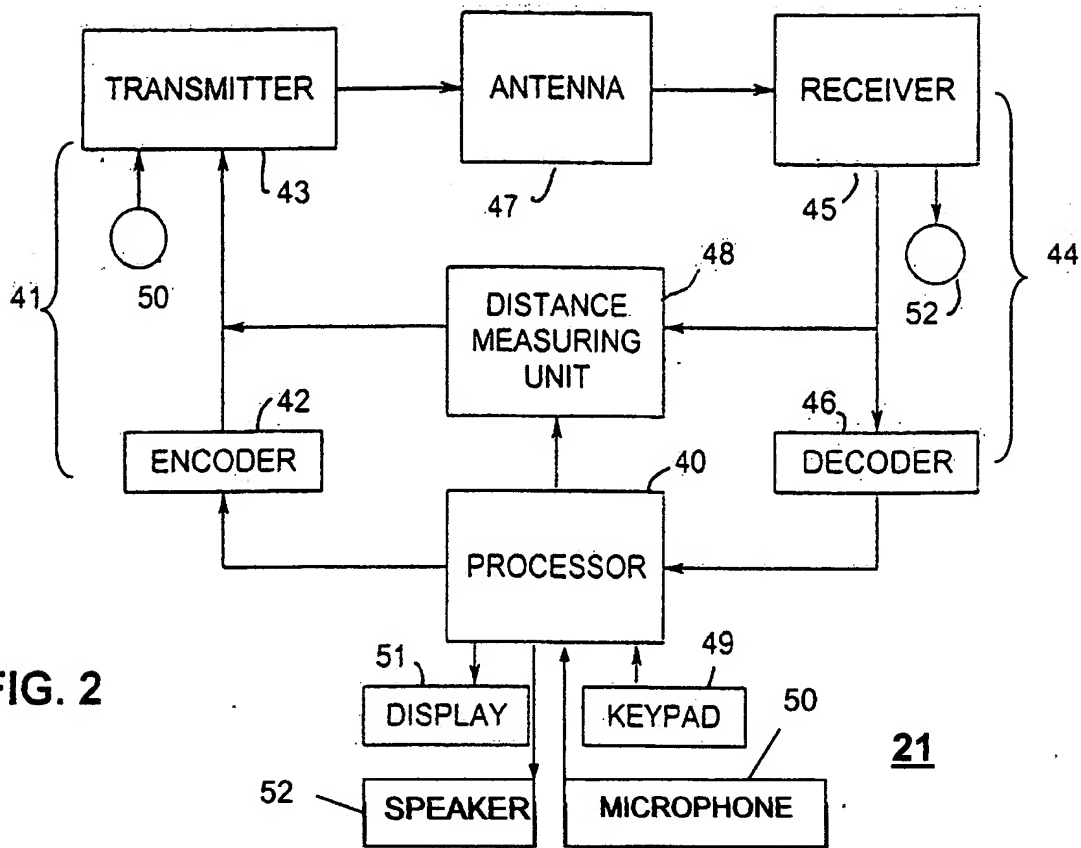


FIG. 2

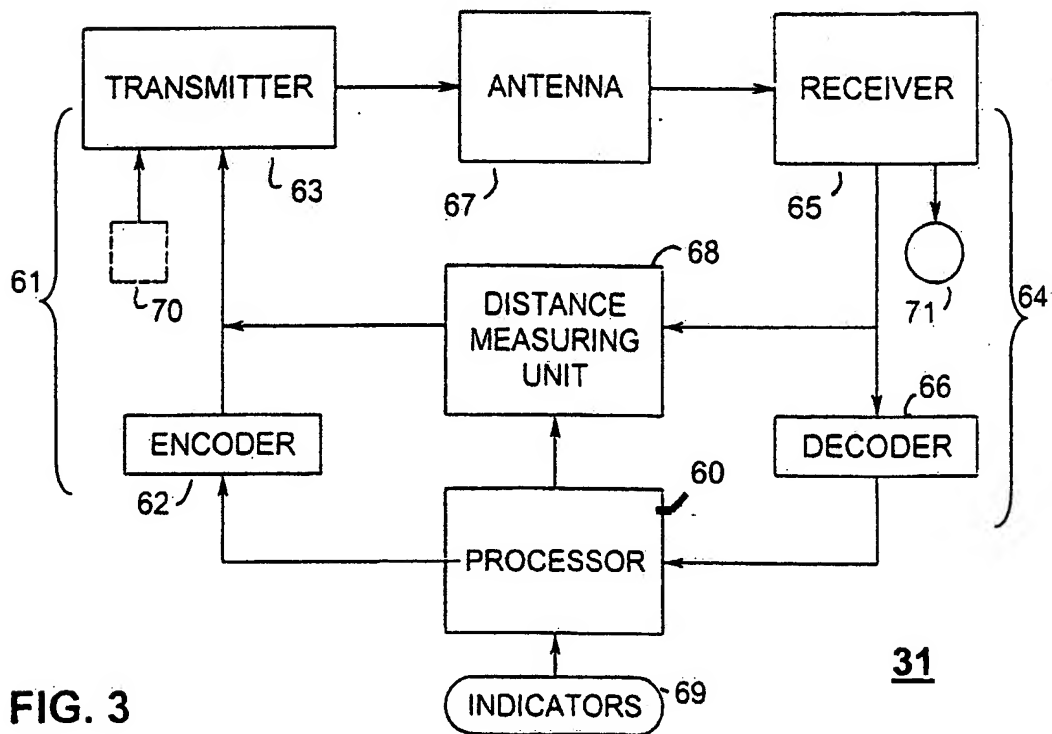


FIG. 3

FIG. 2A

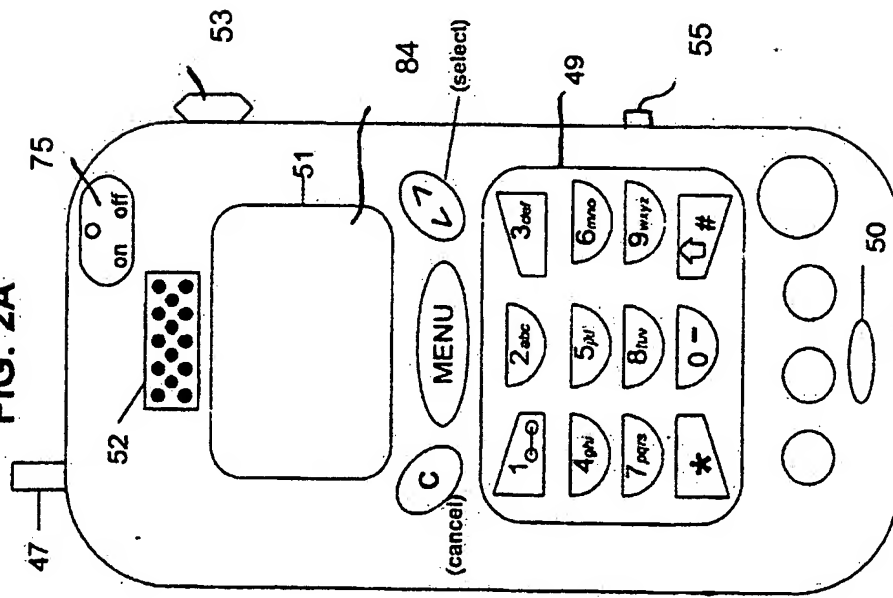
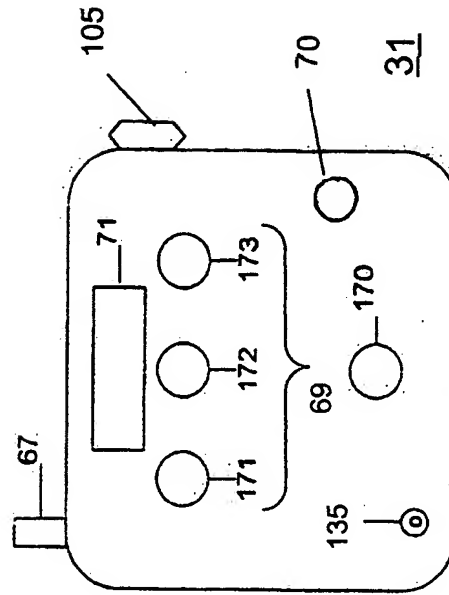


FIG. 3A



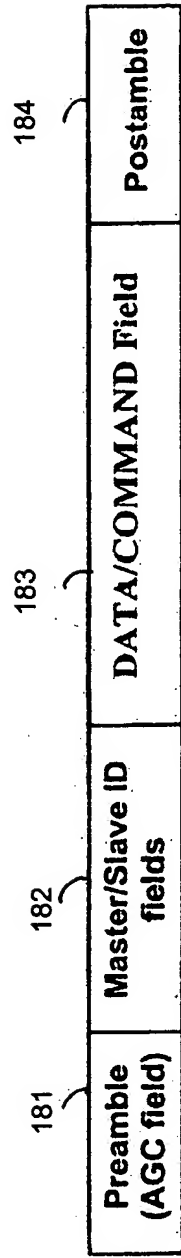


FIG. 3B

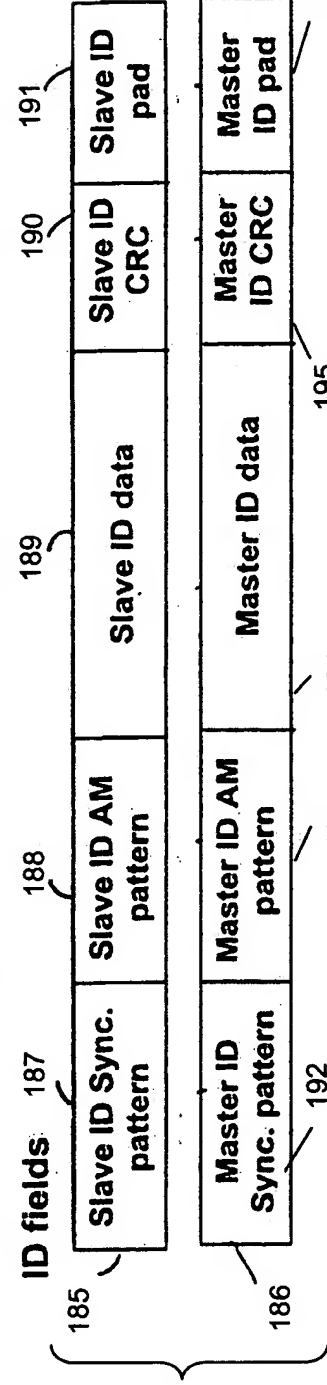


FIG. 3C

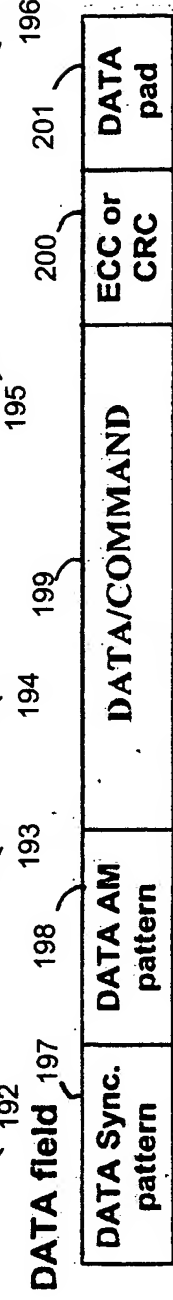


FIG. 3D

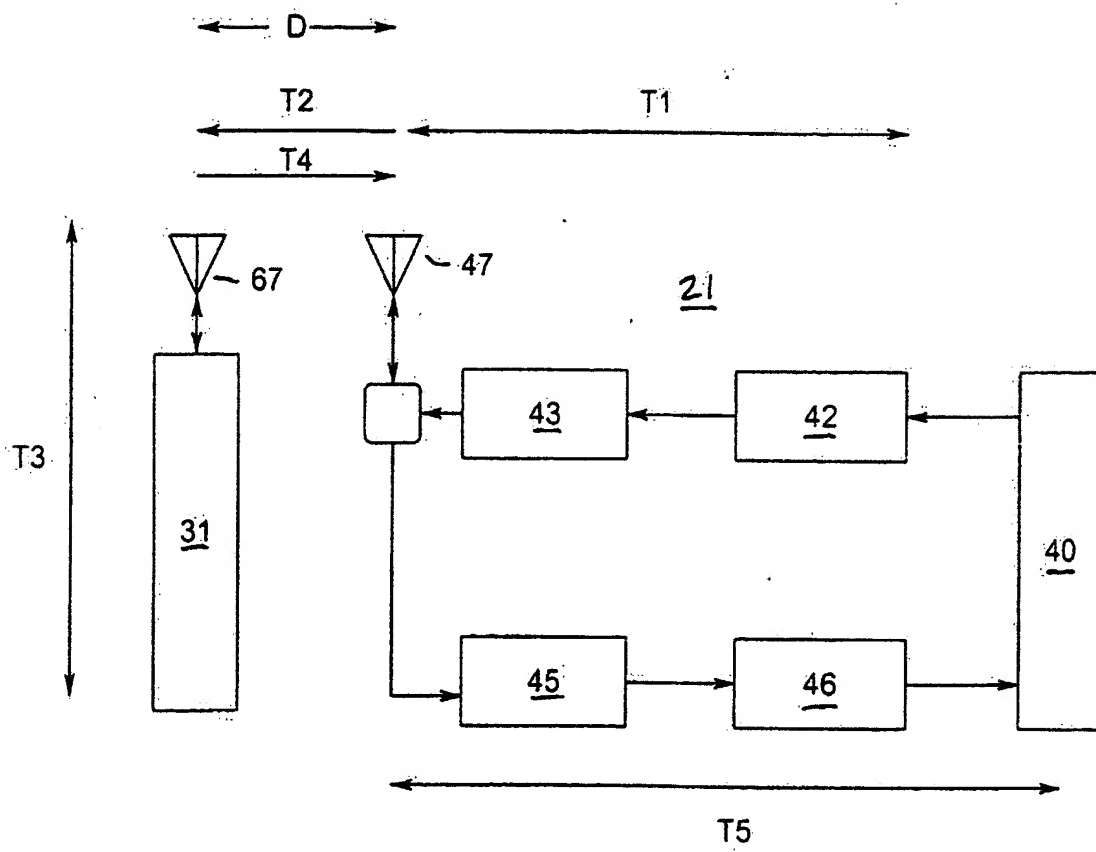
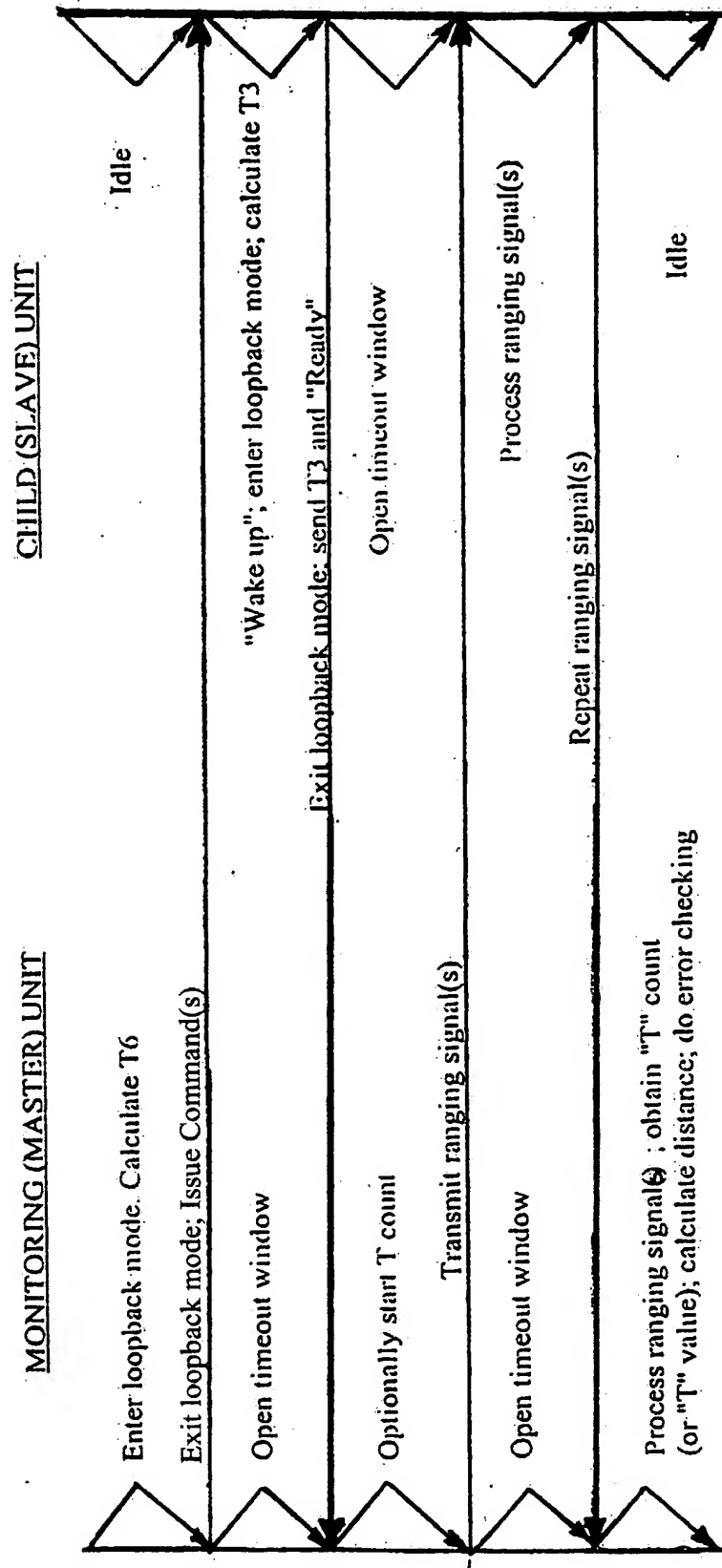


FIG. 4

**FIG. 4A****DISTANCE/TIME MEASUREMENT SEQUENCE - OPTION 1**

**FIG. 4B**

**DISTANCE/TIME MEASUREMENT SEQUENCE - OPTION 2**

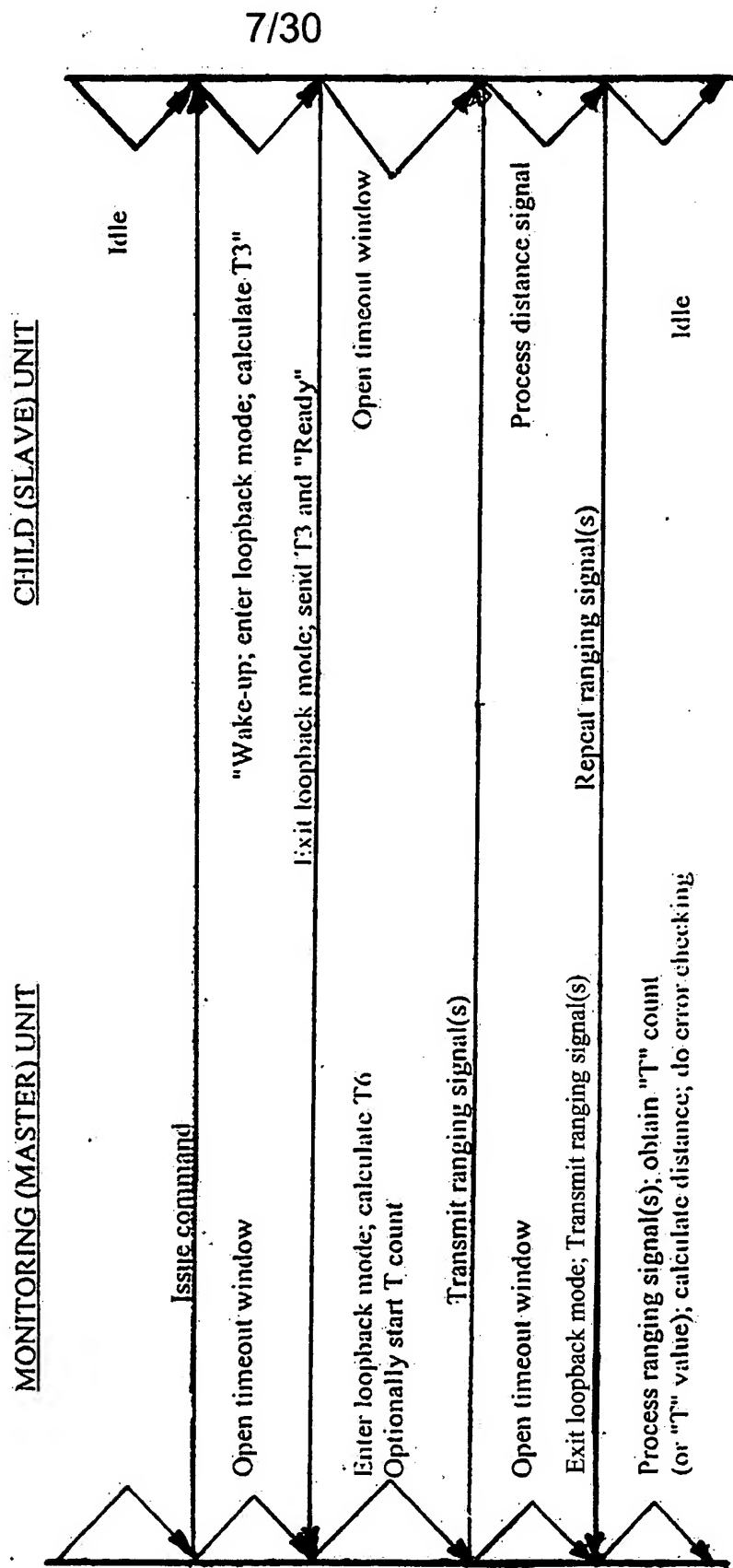




FIG. 5

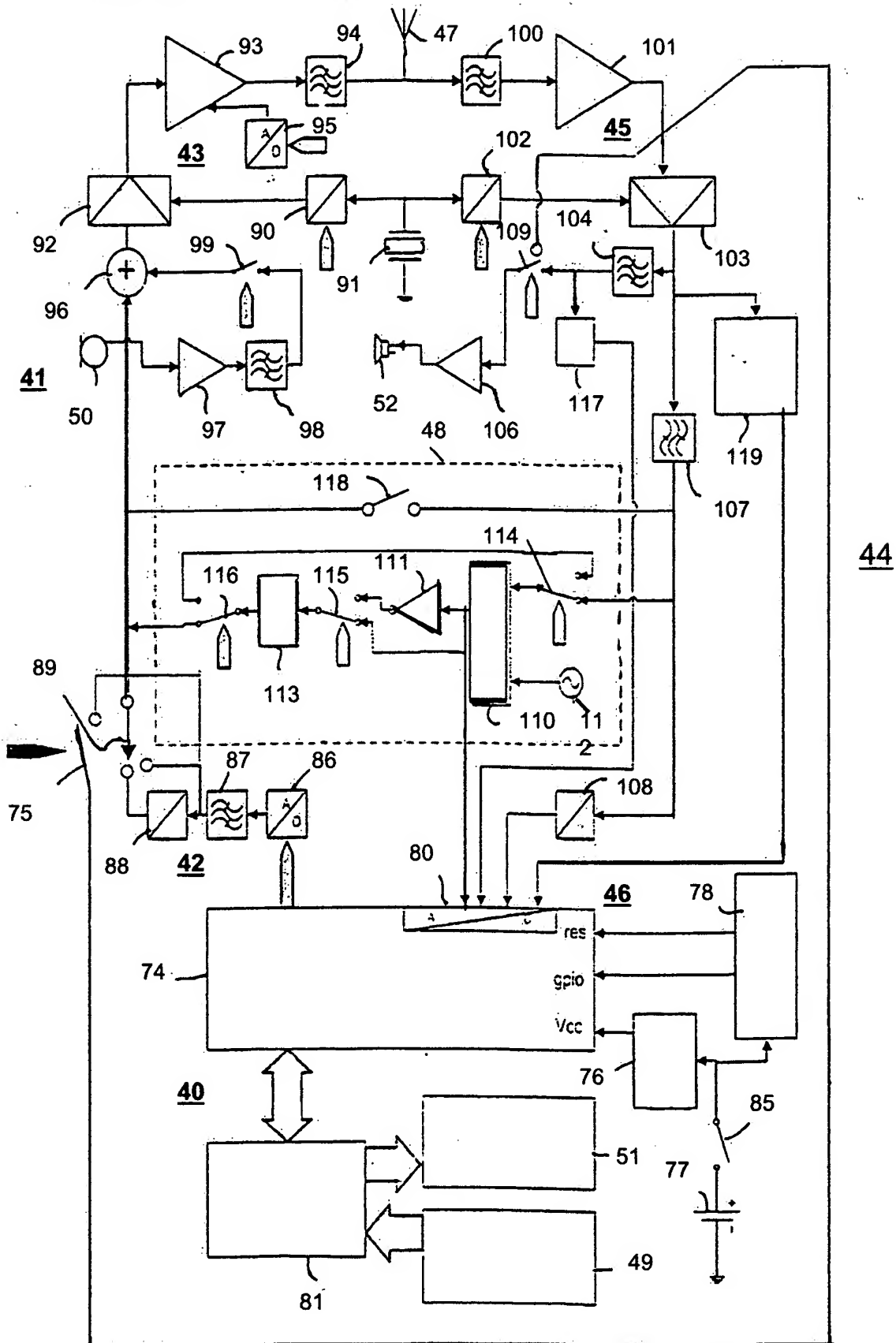
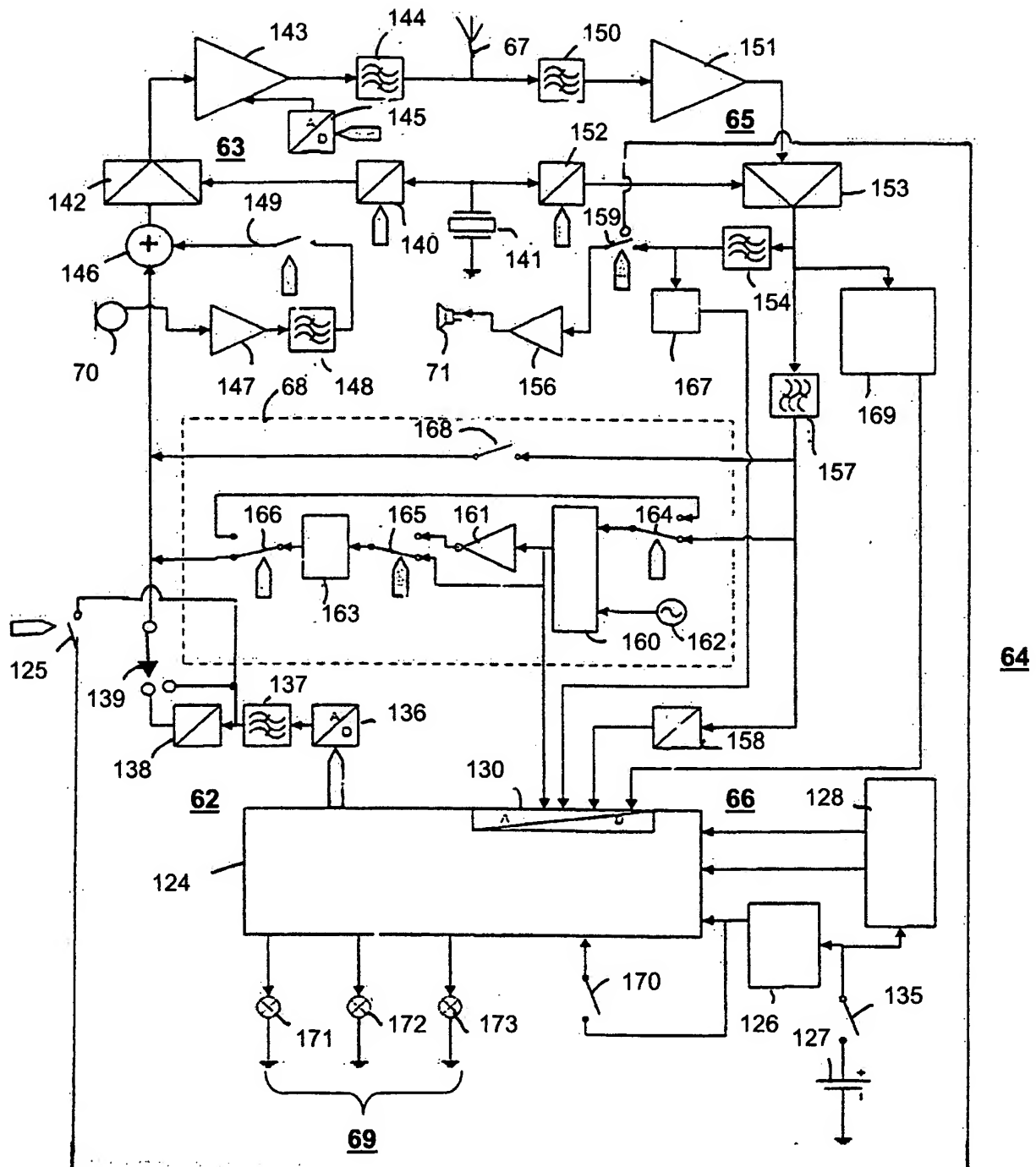


FIG. 6A



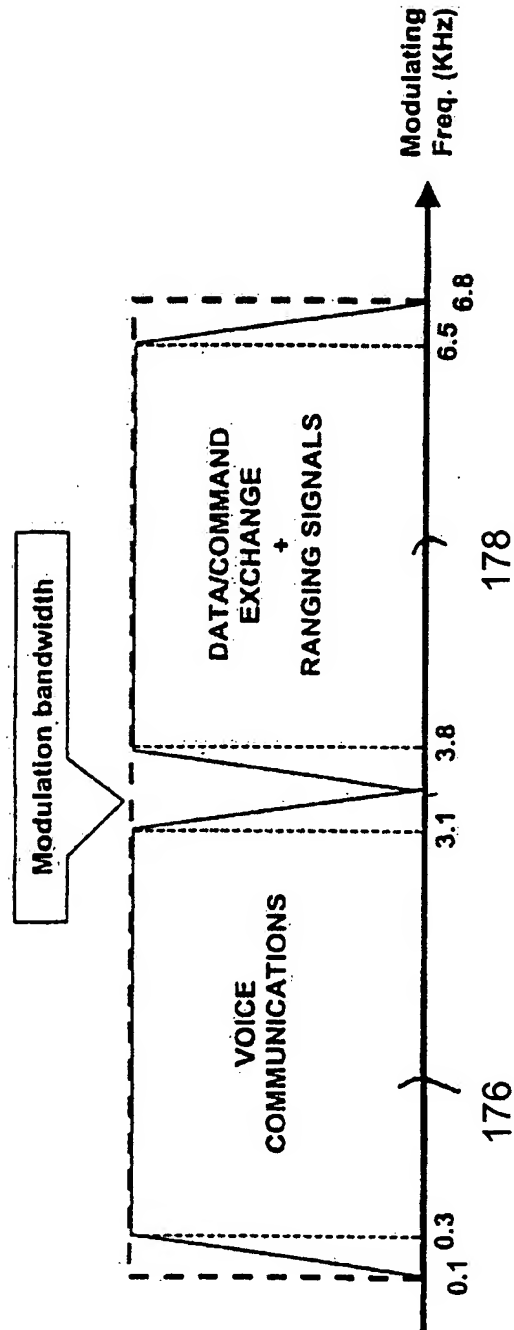


FIG. 6B

## Position determination example

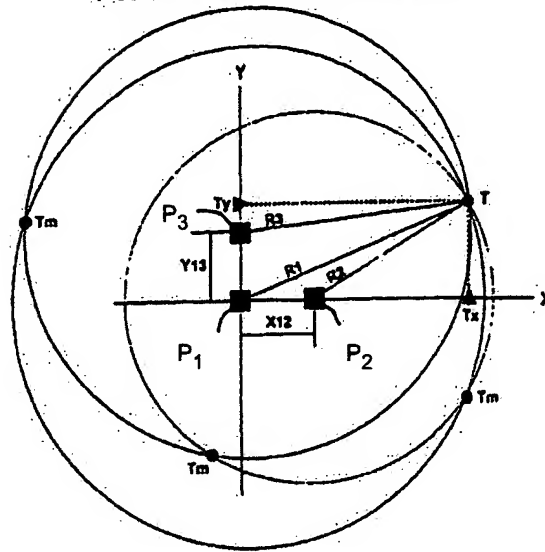


FIG. 7

## Position determination ambiguity

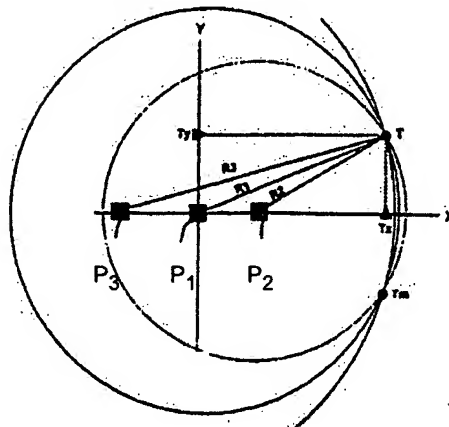


FIG. 8

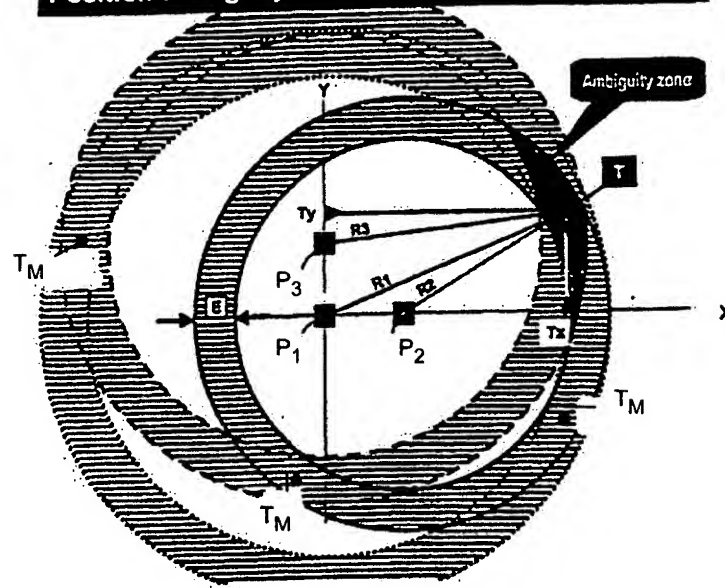
**Position ambiguity and distance measurement error**

FIG. 9

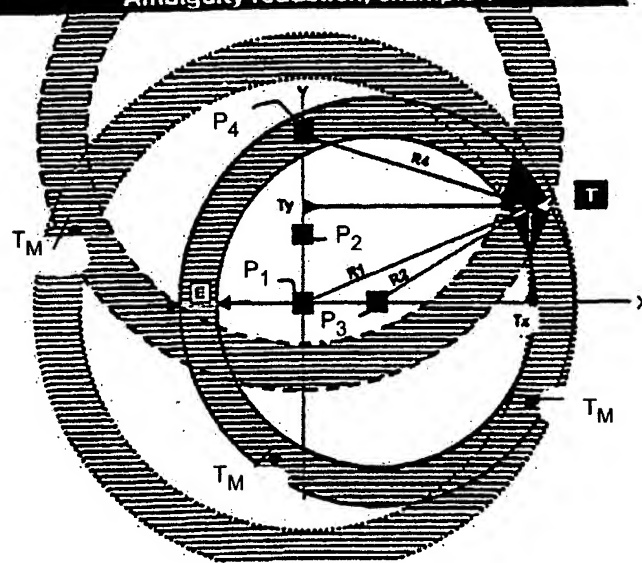
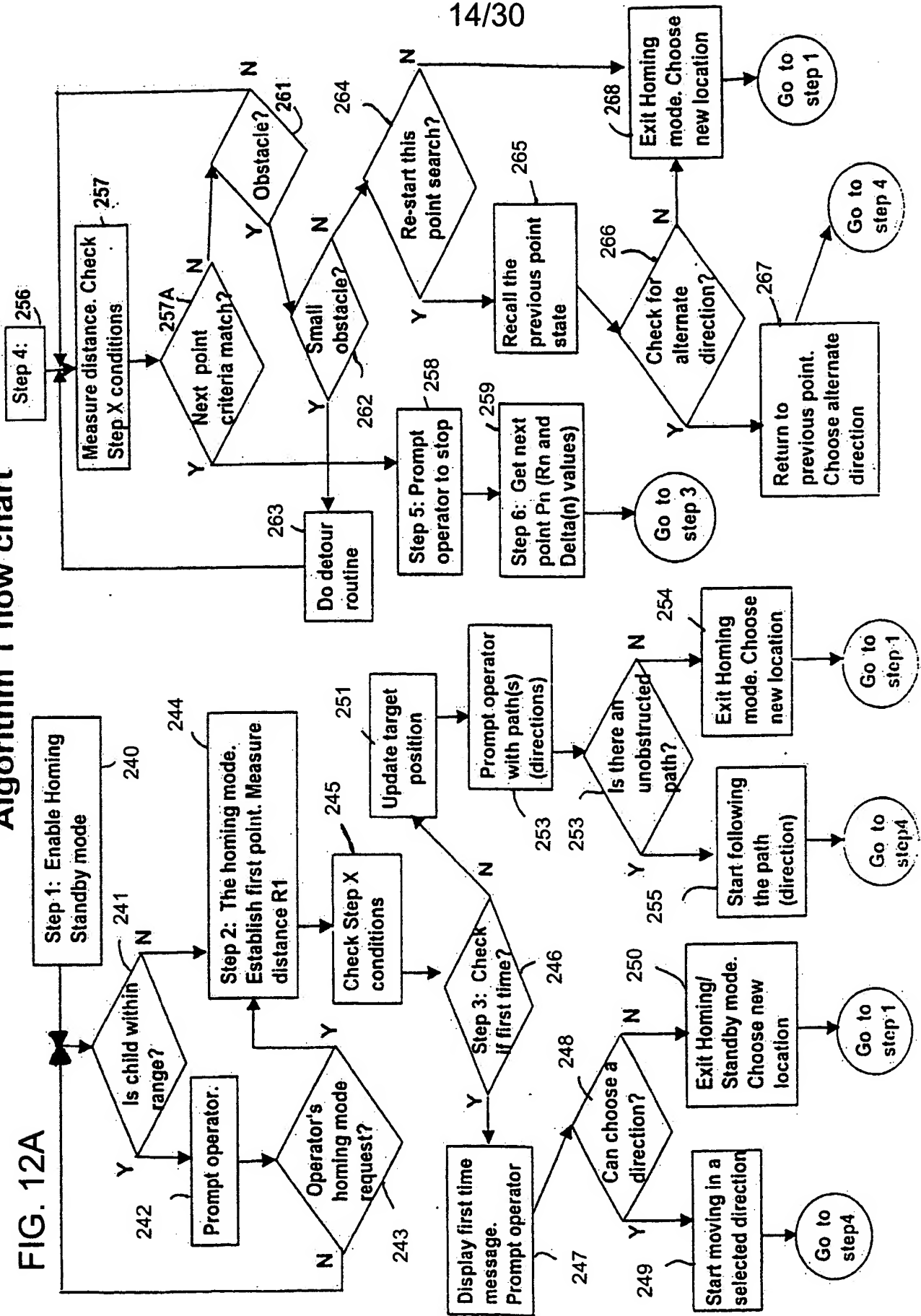
**Ambiguity reduction, example 1**

FIG. 10

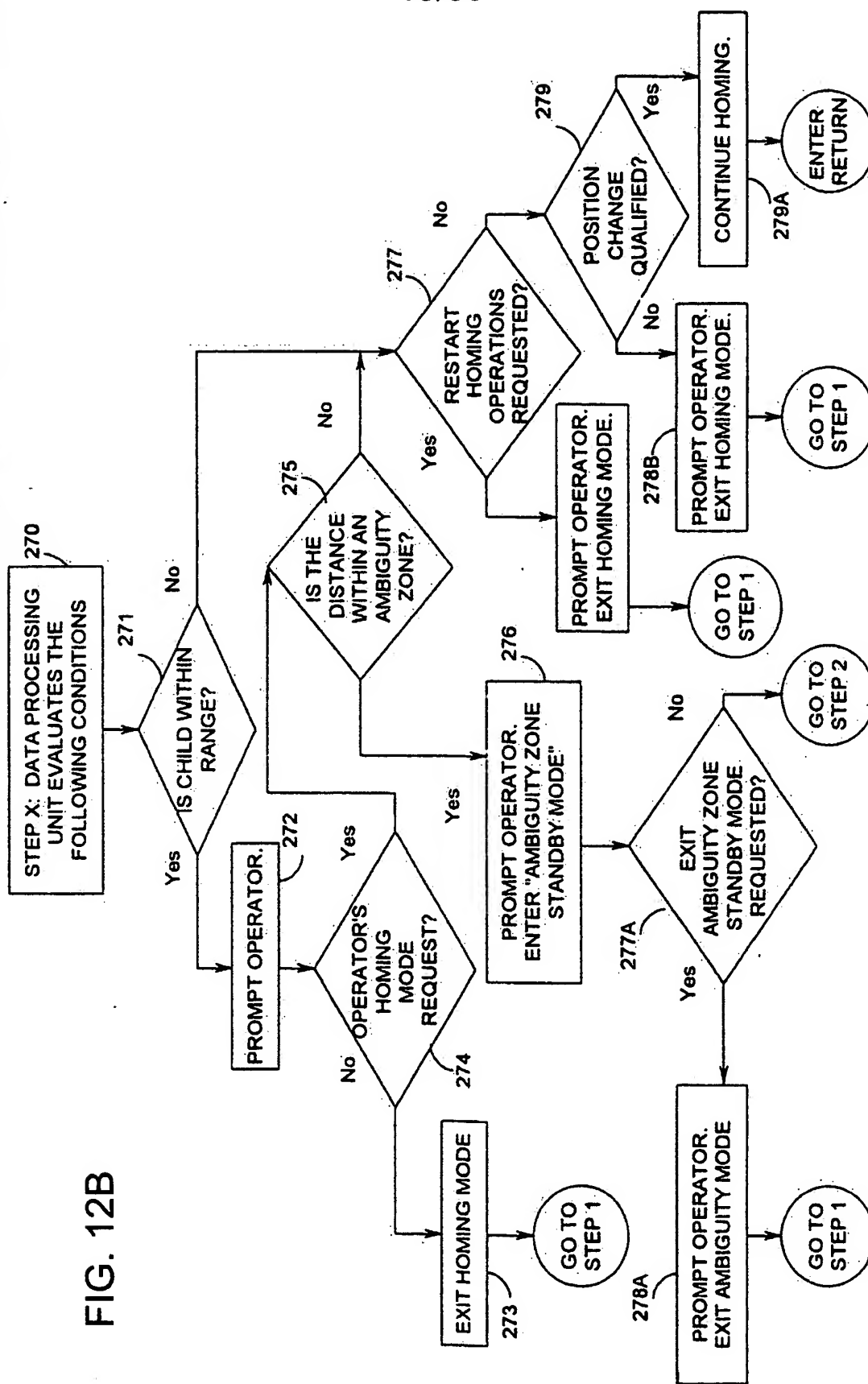


FIG. 12A

# Algorithm 1 flow chart

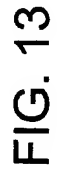


## ALGORITHM 1 FLOW CHART, CONTINUED





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Algorithm 3 flow chart

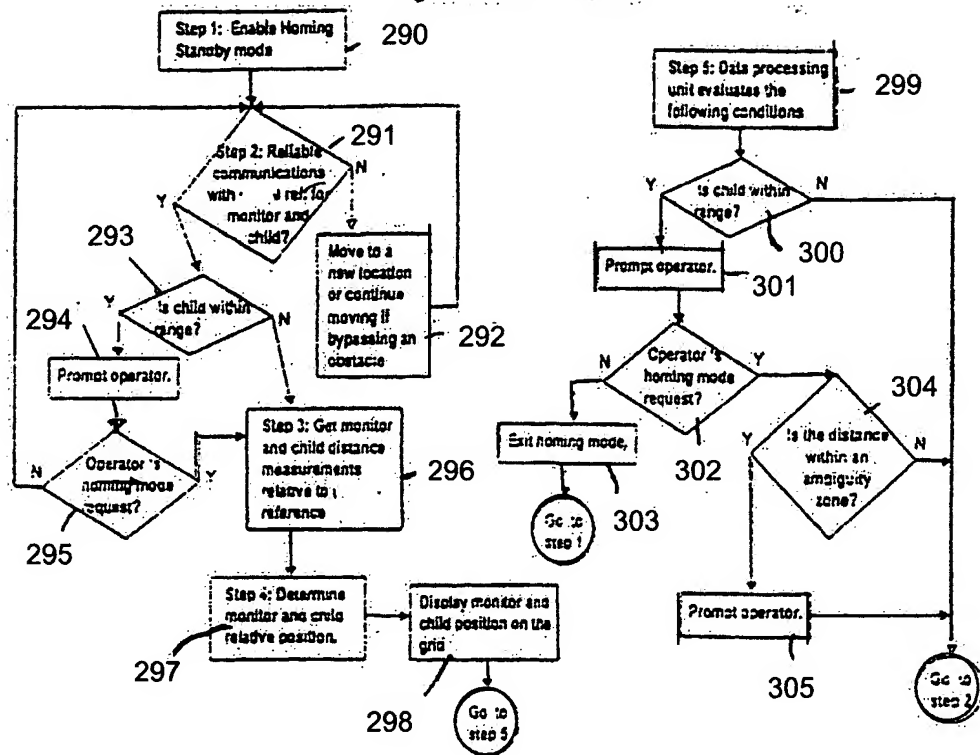


FIG. 14

### Algorithm 1 homing

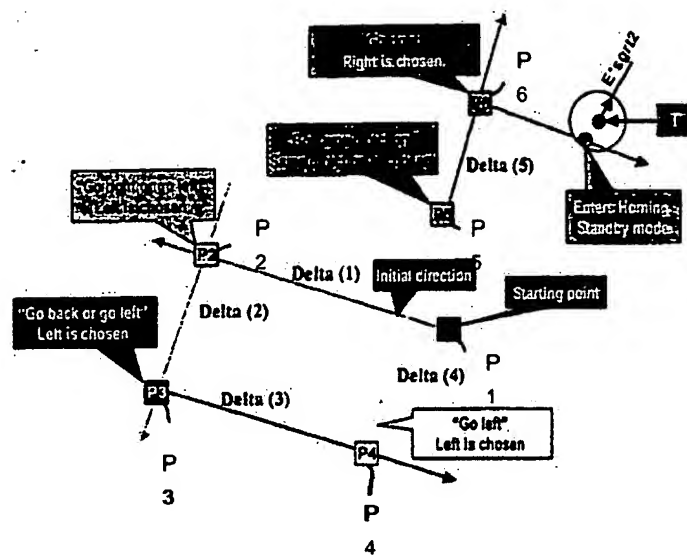


FIG. 15

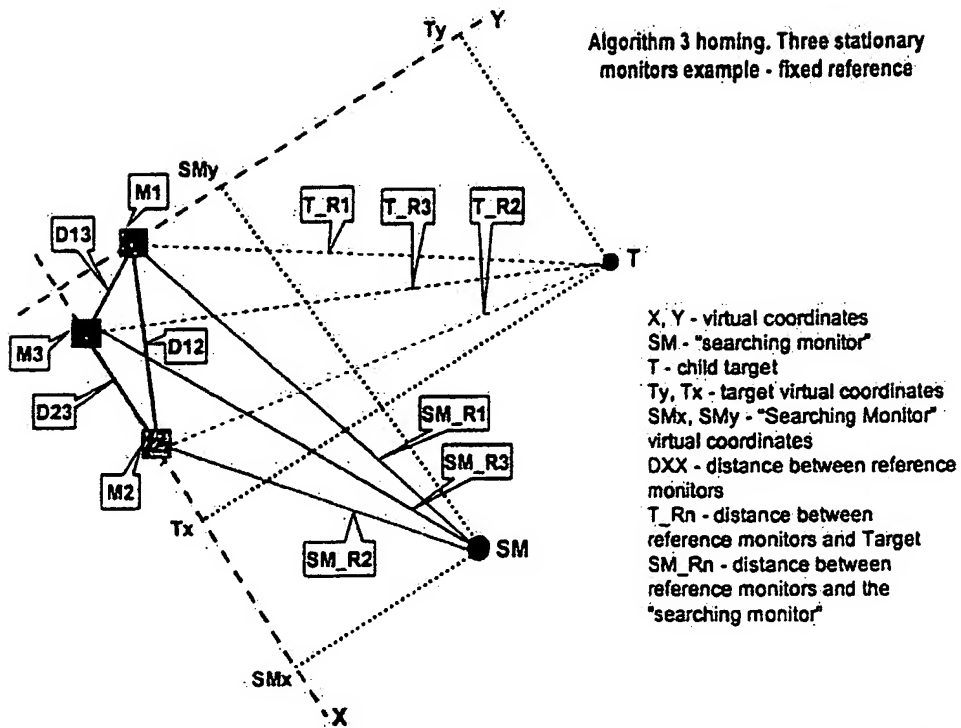


FIG. 16

Algorithm 3 homing. Three stationary monitors reference example, continued  
(virtual coordinates are rotated for mapping into display grid)

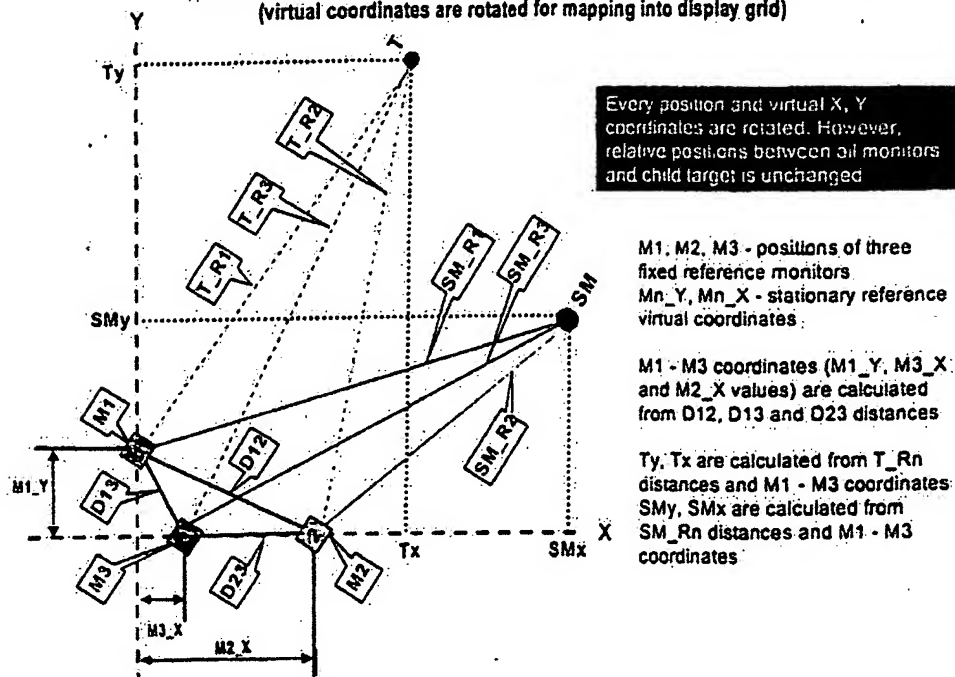


FIG. 17

Algorithm 3 homing. Three stationary monitors reference example, continued  
(display grid)

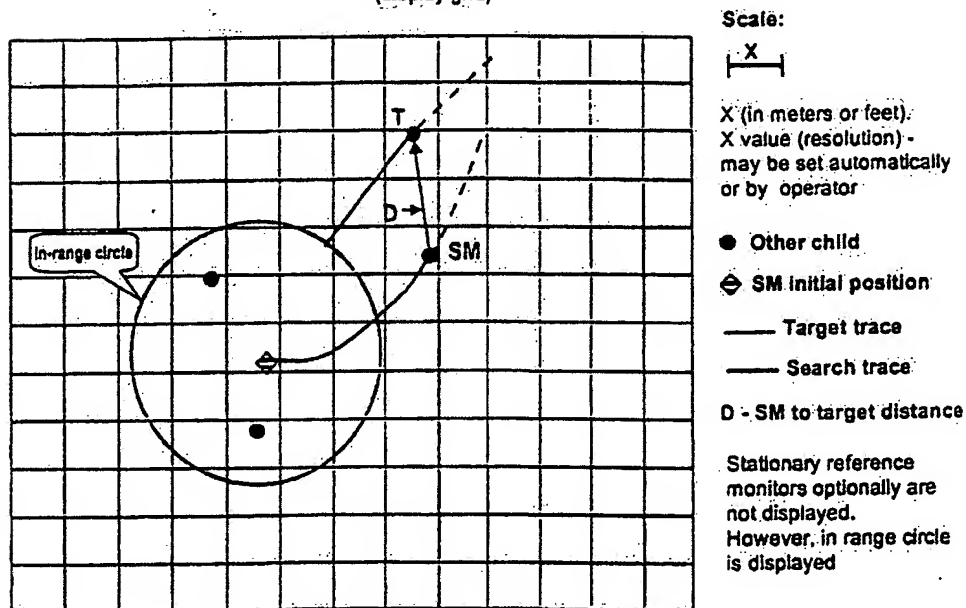


FIG. 18

Algorithm 3 homing. Three moving monitors reference example,  
(display grid)

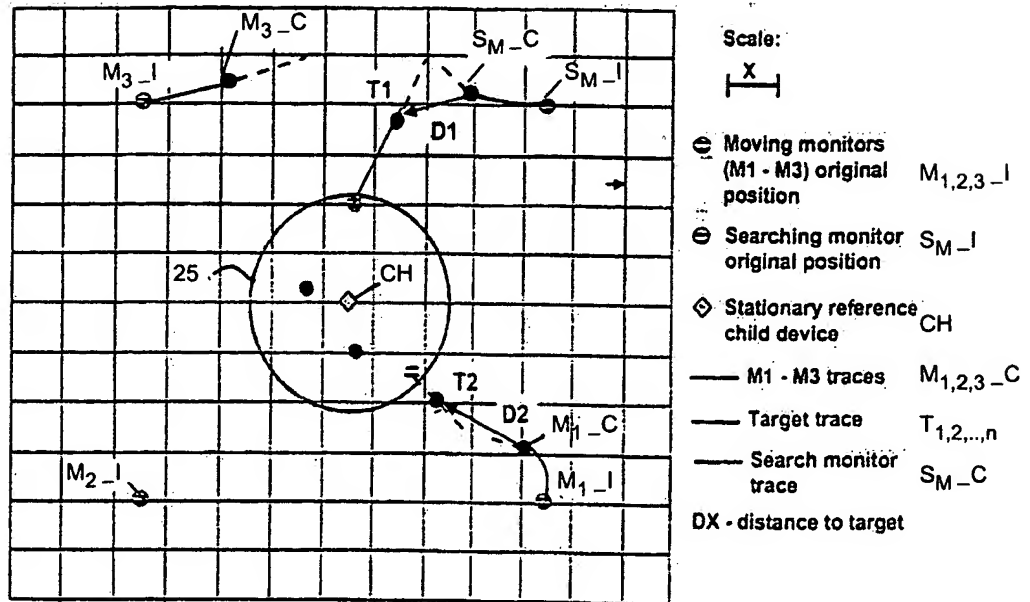
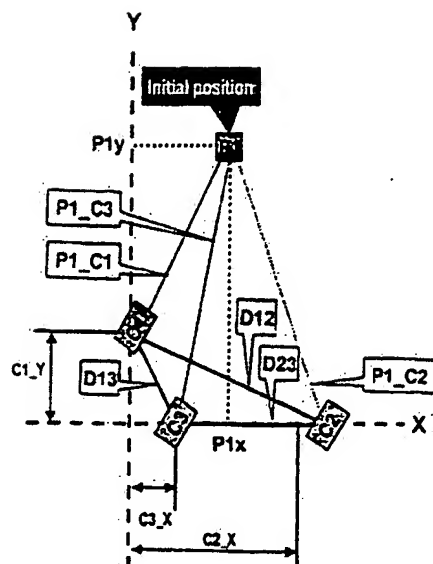


FIG. 19

Algorithm 2 homing. Three stationary child devices reference example  
(virtual coordinates are rotated)



Every position and virtual X, Y coordinates are rotated. However, relative positions between all reference child devices searching monitor and target is unchanged

X, Y - virtual coordinates  
C1, C2, C3 - positions of three stationary child reference monitors

$Ck_Y, Ck_X$  - fixed child reference virtual coordinates are calculated from D12, D13 and D23 values

$Pny, Pnx$  are calculated from  $Pn\_Ck$  distances and  $C1-C3$  coordinates

FIG. 20

Algorithm 2 homing. Three stationary child devices reference example, continued

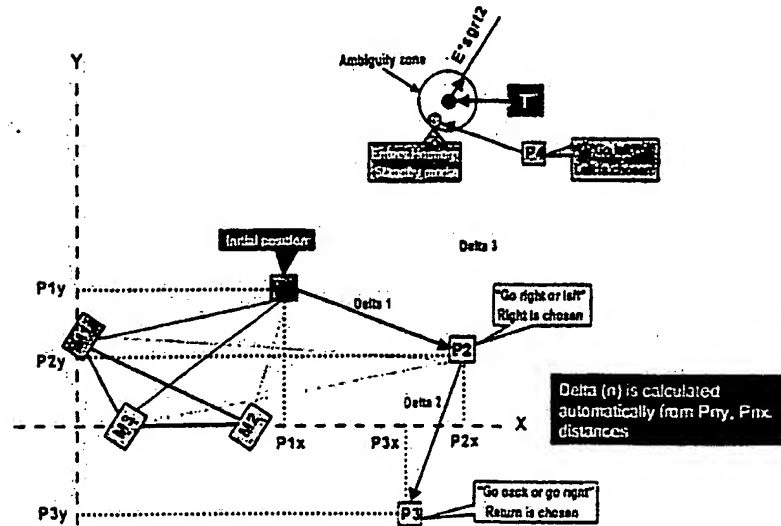


FIG. 21

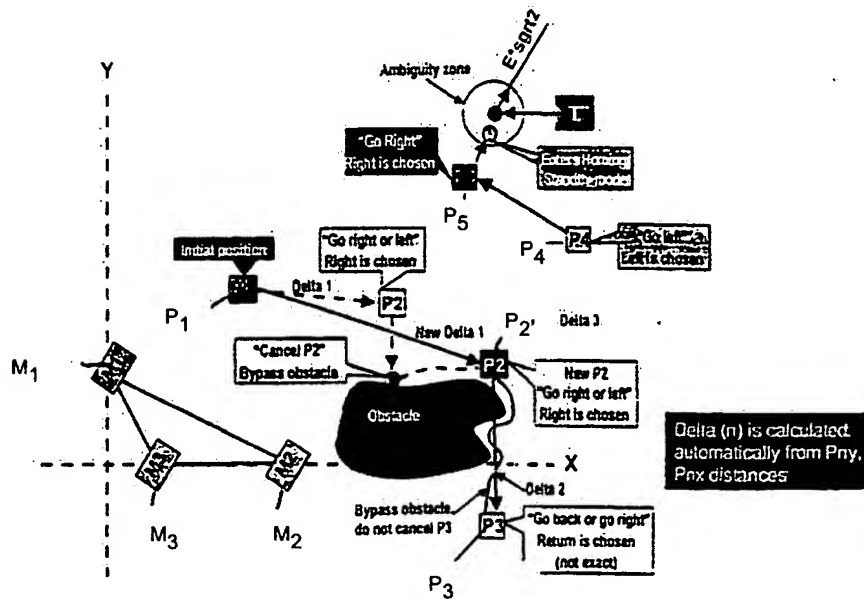
Algorithm 2 homing. Three stationary child devices reference example, continued  
(obstacle avoidance/bypassing)

FIG. 22

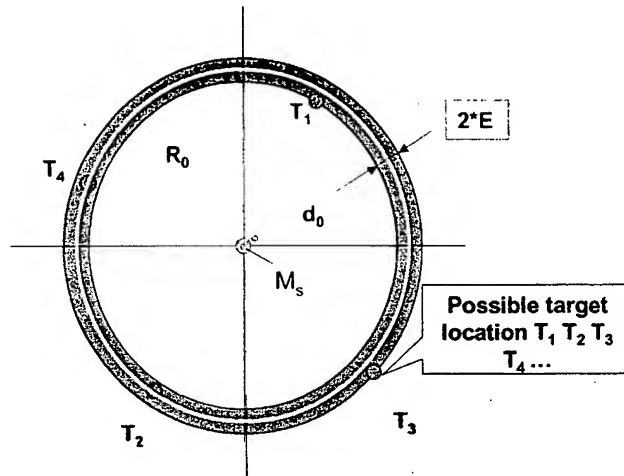


FIG. 23

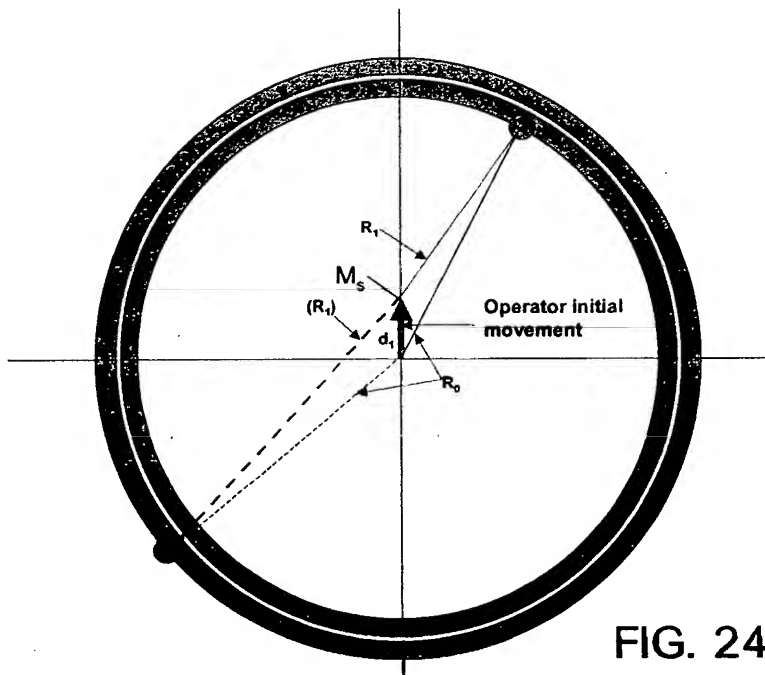


FIG. 24

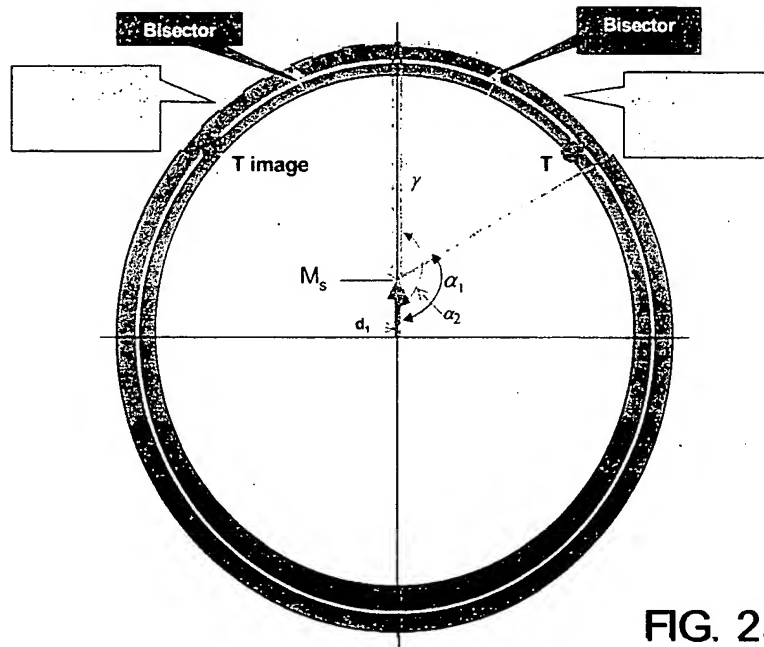


FIG. 25

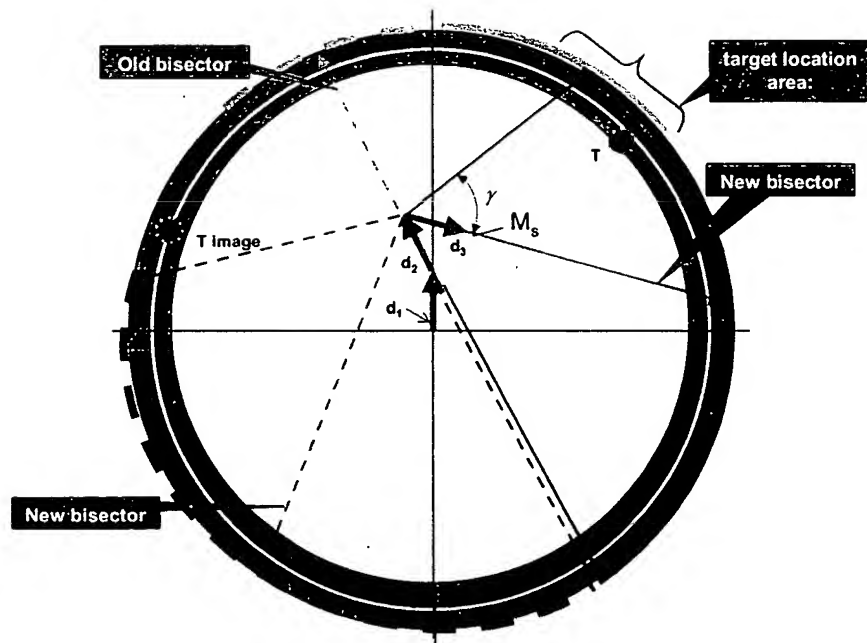


FIG. 26



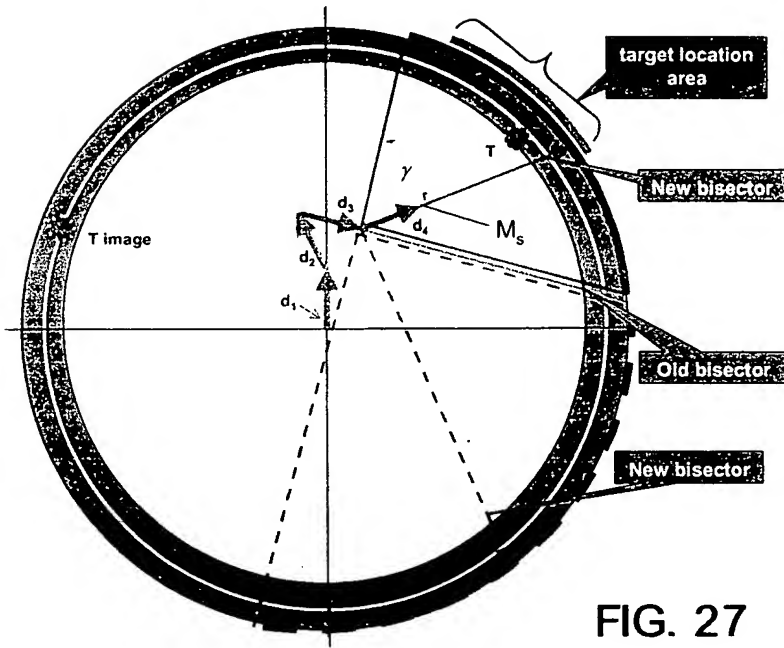


FIG. 27

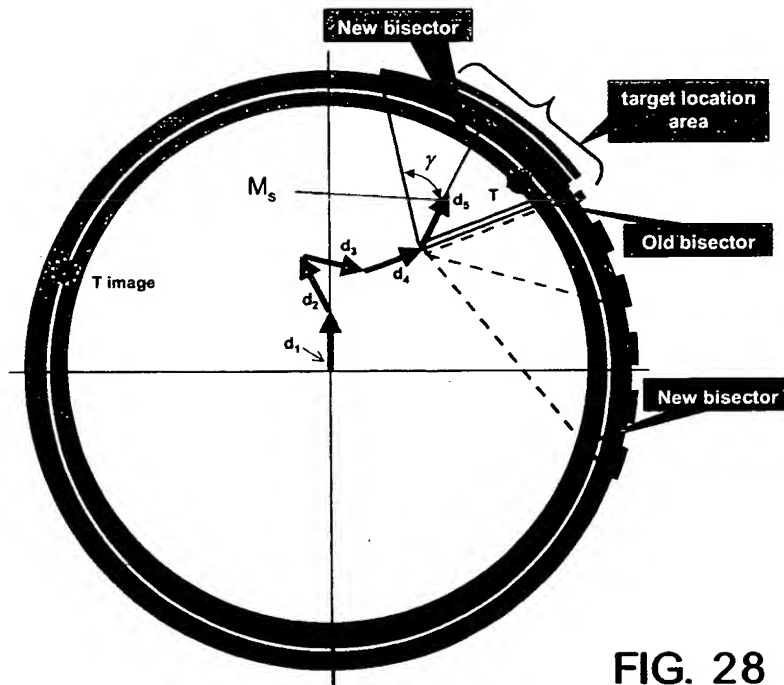


FIG. 28

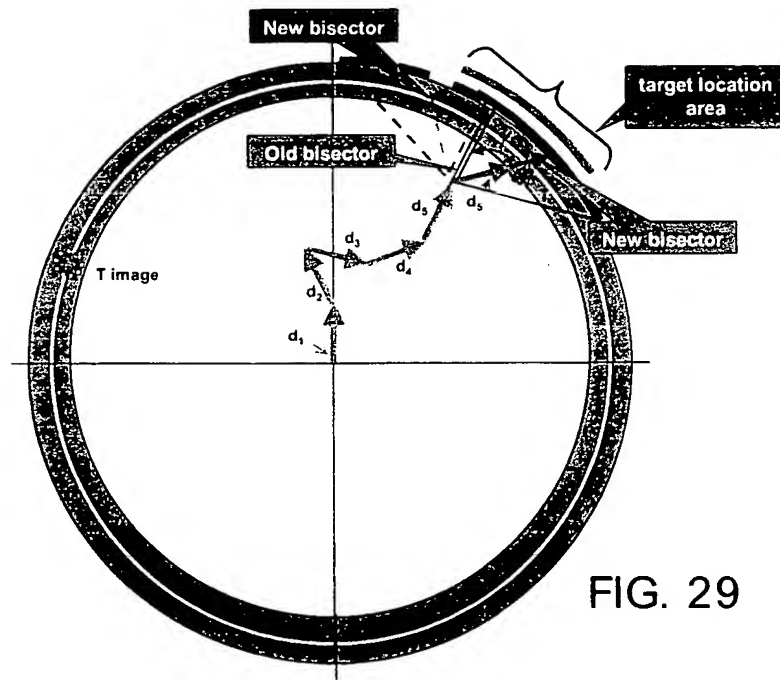


FIG. 29

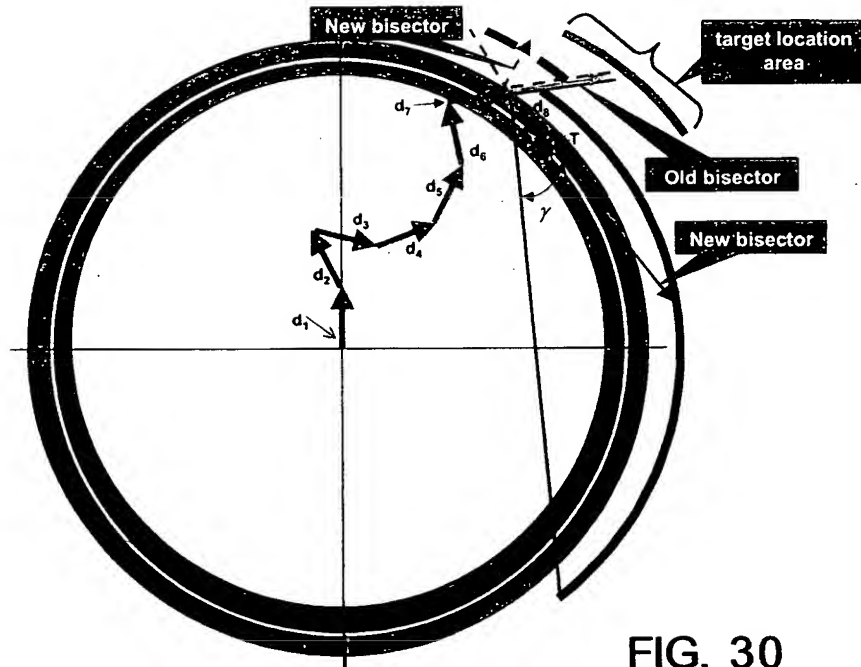


FIG. 30

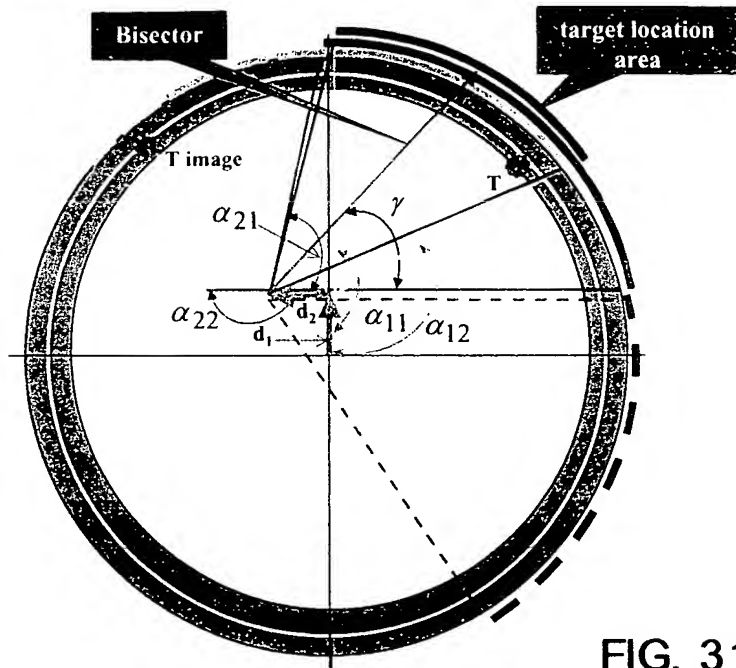


FIG. 31

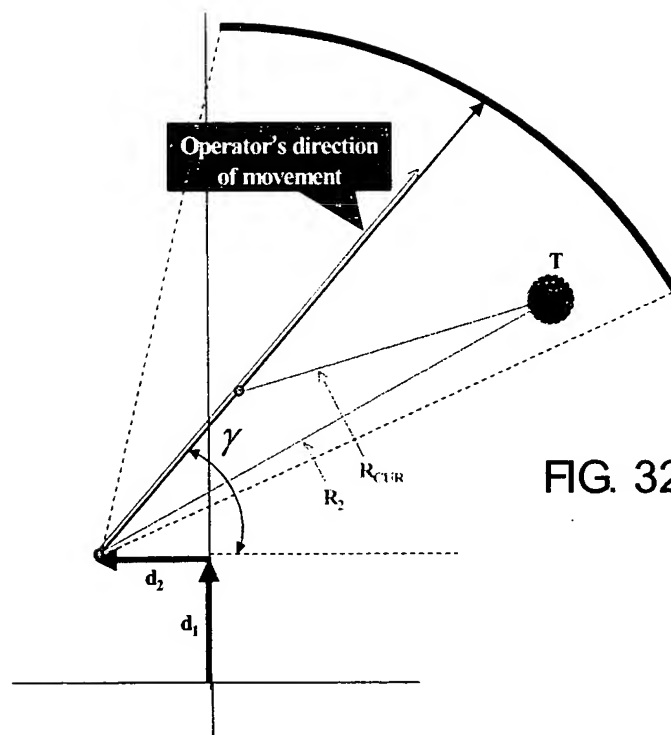


FIG. 32

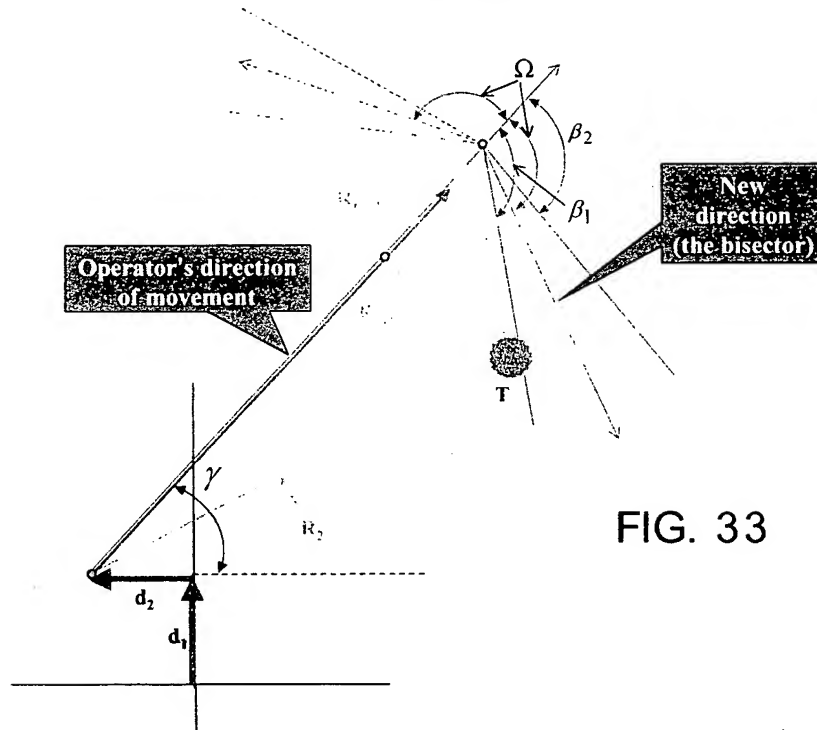


FIG. 33

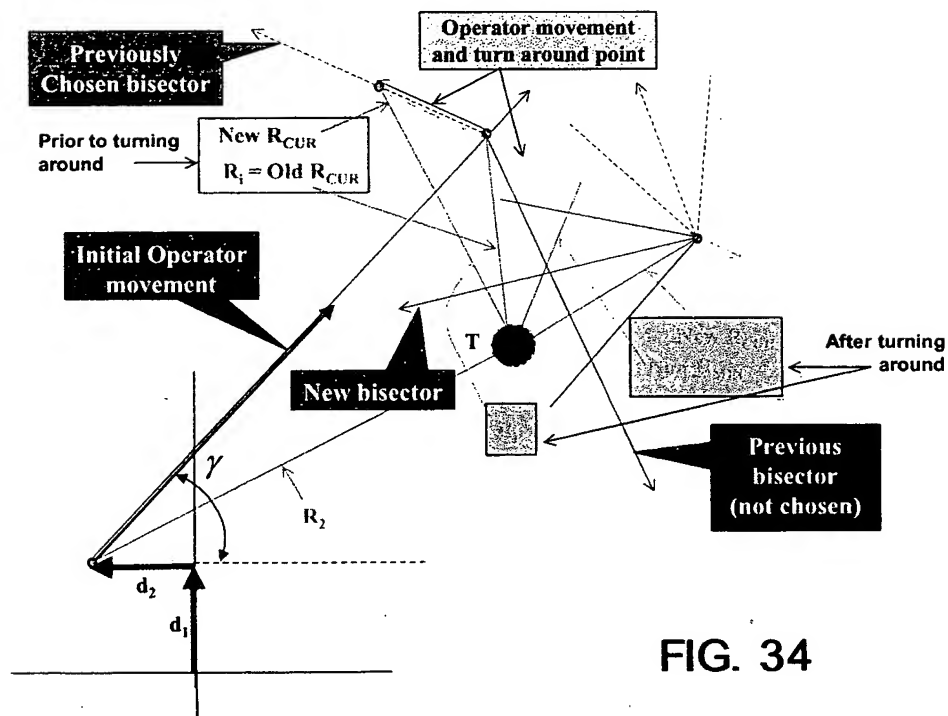


FIG. 34



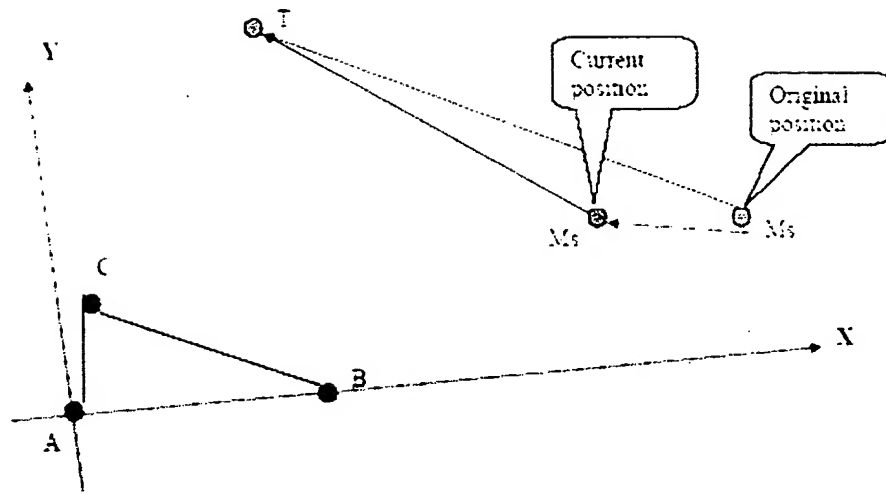


FIG. 38A

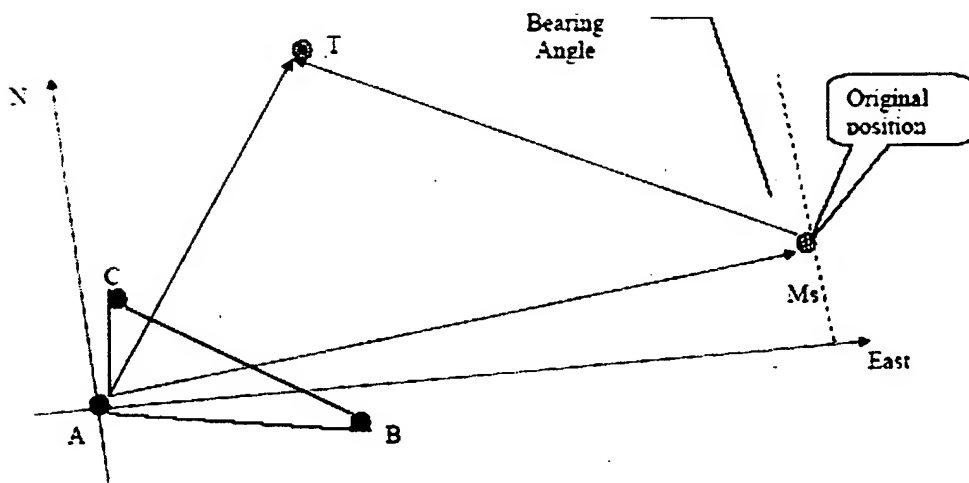


FIG. 38B

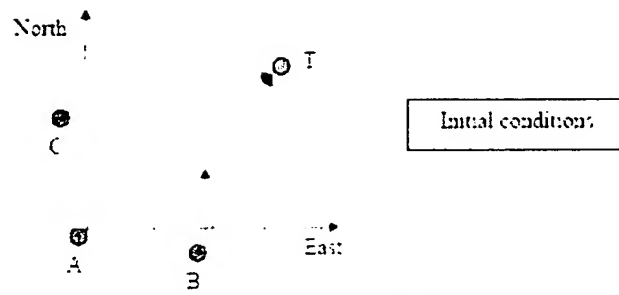


FIG. 39A

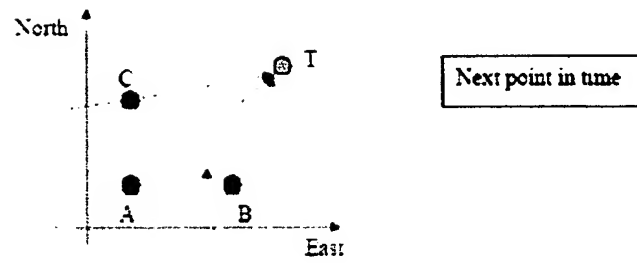


FIG. 39B

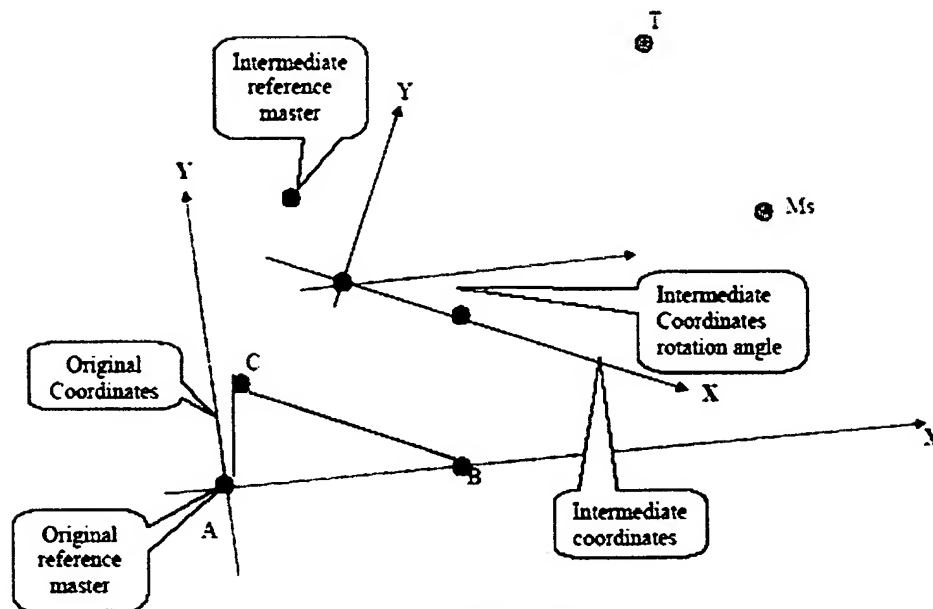


FIG. 40